

REMARKS

In the final Office Action, mailed from the U.S. Patent and Trademark Office on May 22, 2002, Claims 1-21 were rejected under 35 U.S.C. § 102(e) based on U.S. Patent No. 6,363,495 to MacKenzie. In the Applicants' Amendment After Final, filed with the U.S. Patent and Trademark Office on August 8, 2002, the Applicants stated that a Declaration under 37 C.F.R. § 1.131 to swear behind the MacKenzie reference would be filed, if necessary. Accordingly, a Declaration is concurrently filed herewith. The Applicants note that the Declaration would have been filed timely had it not been for the delay that resulted from retrieving the relevant software code, required for the Exhibits of the Declaration, from Oracle's Software Management Systems. With entry of the present Supplemental Amendment, it is believed that the Claims are now in condition for allowance.

Declarations Under 37 C.F.R. §1.131

35 U.S.C. § 102(e) provides that a person shall be entitled to a patent unless the invention was described, *inter alia*, in a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent. 37 C.F.R. § 1.131 provides that when a claim of an application is rejected, the inventor of the subject matter of the rejected claim may submit an appropriate Declaration to establish invention of the subject matter of the rejected claims prior to the effective date of the reference on which the rejection is based. 37 C.F.R. § 1.131 further provides that the showing of facts shall be such, in character and weight, as to establish reduction to practice prior to the effective date of the reference, or conception of the invention prior to the effective date of the reference coupled with due diligence from prior to that date to a subsequent reduction to practice or to the filing of the application.

Pursuant to 35 U.S.C. § 102(e), the Examiner cited MacKenzie as a primary reference in rejecting present Claims 1-21. The effective date of MacKenzie, January 19, 1999, is the U.S. filing date of the patent. The present application was filed on May 28, 1999. Applicants are submitting concurrently herewith, a Declaration of Richard L. Frank under 37 C.F.R. § 1.131. In this Declaration, Mr. Frank states that the idea of

granting membership in a network cluster to a node if the node has access to the shareable storage device, as described in Claims 1-21, was conceived and reduced to practice prior to January 19, 1999.

Prior to January 19, 1999, software code that implemented the invention of Claims 1-21 was written and tested. In Mr. Frank's Declaration, he references and provides, as evidence of this reduction to practice, Exhibits A-E. Exhibits A-E are true copies of selected pages of a version of the software code, obtained from Oracle's software management systems and dated before January 19, 1999. In accordance with accepted U.S. Patent Office practice, portions of the source code in the Exhibits have been redacted.

In the Exhibits, several routines are presented, which are used to grant membership in the network cluster. Examples of these routines include InitCm (Exhibit A) CreateCmThread, (Exhibit B) CmStartUp, (Exhibit C), InitControlDisk (Exhibit D) and WaitForCM (Exhibit E).

By way of background, each node executes cluster manager (CM) software, which it uses to establish access to the shareable storage device and membership in the network cluster. In the particular implementation described in the Declaration, the shareable storage device is implemented as a bound set of disk drives. A node requesting membership in the network cluster executes its cluster manager, which calls the routine InitCm (Exhibit A). InitCm initializes the cluster manager and spawns a cluster manager thread by running the routine CreateCmThread (Exhibit B).

The routine CreateCMThread calls CmStartUp (Exhibit C), which reads the cluster definition and initializes the disk-based messaging area (control area) on the shareable storage device (control disk). CmStartUp invokes the routine InitControlDisk (Exhibit D) to determine, among other things, the valid members of the cluster. To be a valid member, a node must be able to access the shareable storage device.

For example, InitControlDisk reads the shareable storage device to determine if any nodes have written to their message location. In particular, InitControlDisk uses the routine CmReadAnyFromBoundSet to determine which nodes have written to their message location on the shareable storage device. If the node requesting membership in the cluster cannot access the shareable storage device, then it cannot be a member of the cluster (i.e., status != NEDC_IO_SUCCESS). Thus, when the “status!=NEDC_IO_SUCCESS” statement is processed by the CmStartUp routine, CmStartUp provides a pointer in the node’s local registry (e.g. pClub) to CmAbort. This indicates that the node’s attempt to join the cluster has failed, and that the node’s cluster manager processes are to be shut down.

If the node, however, can access the shareable storage device, it can be granted membership in the cluster. In this situation, the node satisfies the condition that its “status != NEDC_IO_SUCCESS,” and that its “status=WriteControlArea,” which indicates that the node is able to access the shareable storage device. This status is processed by the InitCm routine to confirm that the creation of the cluster manager thread was successful. The routine WaitForCm (Exhibit E) is then called by InitCm to confirm that the cluster manger is initialized (e.g. return true). When InitCm receives this indication, the node’s request for membership in the cluster is accepted (e.g. ready to accept application registration).

Note that the node’s membership in the network cluster is predicated on its ability to access the shareable storage and not its network connectivity to other nodes. As a result, the cluster can be formed from a single node. Also, unlike prior cluster management systems, a quorum of nodes is not required to form a cluster.

The software code referenced in the Declaration shows that prior to January 19, 1999, a cluster membership management technique was implemented in which membership in the cluster is based on a node’s ability to access to the shareable storage device. As such, the claimed invention was conceived and reduced to practice prior to

the filing date of MacKenzie, and therefore, the MacKenzie reference is not citable as a prior art reference against the present application.

In view of the above remarks, it is respectfully requested that the rejections to Claims 1-21 under 35 U.S.C. § 102(e) be withdrawn.

Claim Amendments

Claim 14 is amended to correct a typographical error. In addition, new Claims 33-50 are being added to claim the invention more distinctly. Support for the new claims can be in the originally filed application, for example, at pg. 3, ll. 19 - pg. 4, ll. 5, pg. 5, ll. 17 – pg. 6, ll. 15 of the Specification, and Claims 1-5. Thus, no new matter is being introduced. Acceptance is respectfully requested.

CONCLUSION

In view of the above remarks, it is believed that all claims are in conditions for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned attorney at (978) 341-0036.

Respectfully submitted,

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MARKED UP VERSION OF AMENDMENTS

Claim Amendments Under 37 C.F.R. § 1.121(c)(1)(ii)

14. (Amended) The computer program product[e] of Claim 5 further comprising program code that:

revokes membership of the node in the network cluster if the node ceases to have access to the shareable storage device.